

CLIMATOLOGICAL SUMMARY.

By Mr. JAMES BERRY, Chief of the Climatological Division.

TEMPERATURE AND PRECIPITATION BY SECTIONS, MARCH, 1906.

In the following table are given, for the various sections of the Climatological Service of the Weather Bureau, the average temperature and rainfall, the stations reporting the highest and lowest temperatures with dates of occurrence, the stations reporting greatest and least monthly precipitation, and other data, as indicated by the several headings.

The mean temperatures for each section, the highest and

lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation. Of course the number of such records is smaller than the total number of stations.

Section.	Temperature—in degrees Fahrenheit.						Precipitation—in inches and hundredths.					
	Section average.	Departure from the normal.	Monthly extremes.				Section average.	Departure from the normal.	Greatest monthly.		Least monthly.	
			Station.	Highest.	Date.	Station.			Station.	Amount.	Station.	Amount.
Alabama.....	51.6	-4.6	Lucy.....	85	23	Valley Head.....	20	21	Demopolis.....	15.78	Lucy.....	3.80
Arizona.....	54.4	0.0	Roosevelt.....	92	31	Flagstaff (a).....	1	2	Flagstaff (b).....	6.41	Gilabend.....	0.03
Arkansas.....	45.2	-7.2	Centerpoint.....	88	26	Harrison.....	10	20	Conning.....	9.27	Fort Smith.....	3.33
California.....	30.7	-4.6	Holly.....	89	26	Antelope Springs.....	-34	19	Silverton.....	10.04	Manassa.....	0.20
Colorado.....	62.8	-2.6	Orange City.....	92	29	Molino.....	24	21	Molino.....	8.29	Jacksonville.....	1.03
Florida.....	52.2	-4.1	St. George.....	86	29	Clayton.....	15	21	Newnan.....	13.77	Valona.....	0.92
Georgia.....	67.2†	-4.1	Waialua, Oahu.....	91	12	Honolulu, Hawaii.....	30 5, 6, 13	3.44†	Honolulu, Maui.....	15.37	Naalehu, Hawaii.....	0.24
Hawaii.....	31.2	-4.1	Lewiston.....	71	29	Soldier.....	-35	17	Blackfoot.....	4.45	Port Hill.....	0.20
Idaho.....	31.2	-7.5	New Burnside.....	66	8	Philo.....	-13	17	Equality.....	6.88	Antioch.....	0.60
Illinois.....	31.9	-7.6	Madison.....	67	26	Northfield.....	-8	18	Bloomington.....	9.31	Hammond.....	0.89
Indiana.....	27.1	-5.7	Pacific Junction.....	65	1	Thurman.....	-14	17	Burlington.....	4.55	Ames.....	0.58
Iowa.....	33.1	-8.6	Englewood.....	83	25	Burr Oak.....	-15	17	Columbus.....	3.47	Scott.....	0.45
Kansas.....	39.2	-7.6	Earlington.....	75	11†	Maysville.....	3	1	Mount Sterling.....	9.10	Williamsburg.....	2.62
Kentucky.....	56.8	-3.9	Shelbyville.....	75	26†	Oxford.....	22	20	Clinton.....	16.18	Morgan City.....	2.24
Louisiana.....	36.9	-5.1	Melville.....	86	8†	Oakland, Md.....	-8	18	Bachmans Valley, Md.....	7.18	Westernport, Md.....	2.22
Maryland and Delaware.....	24.4	-4.4	St. Francisville.....	86	27†	Humboldt.....	-35	23	Whitefish Point.....	3.63	Harbor Beach.....	0.55
Michigan.....	20.6	-4.5	Great Falls, Md.....	68	27	Bagley.....	-33	14	Peterston.....	8.17	Angus.....	0.10
Minnesota.....	52.0	-5.1	Coldwater.....	63	26	Ripley.....	23	21	Enterprise.....	14.76	Pittsboro.....	3.88
Mississippi.....	34.6	-9.2	New Ulm.....	61	29	Bethany.....	-5	17†	Koshkonong.....	8.83	St. Joseph.....	1.43
Missouri.....	24.8	-3.8	Waynesboro.....	86	24	Sublett.....	-5	17†	Absarokee.....	2.95	Ridgeland.....	0.00
Montana.....	26.1	-8.4	Joplin.....	75	26	Fort Logan.....	-45	15	Hayes Center.....	4.42	Ashton.....	0.20
Nebraska.....	38.5	-0.1	St. Pauls.....	79	31	Agate.....	-28	16	Morey.....	6.16	2 stations.....	T.
Nevada.....	27.7	-4.1	Red Cloud.....	74	1	San Jacinto.....	-15	16	Rockport, Mass.....	9.08	Burlington, Vt.....	1.75
New England*.....	34.4	-3.6	Martins Ranch.....	83	9	Van Buren, Me.....	-27	25	New Brunswick.....	6.77	Cape May City.....	2.91
New Jersey.....	44.5	-0.1	3 stations.....	58	3 dates	Layton.....	-15	24	Fort Wingate.....	4.80	7 stations.....	0.00
New Mexico.....	28.4	-4.9	Imlaystown.....	62	4†	Chama.....	-8	19	Boyd's Corners.....	7.05	Avon.....	1.26
New York.....	46.1	-3.8	Oceanic.....	62	27†	Paul Smiths.....	-20	25	Sapphire.....	11.92	Saxon.....	3.85
North Carolina.....	18.5	+0.6	Lordsburg.....	87	31	Pink Beds.....	5	21	Wishek.....	2.00	6 stations.....	T.
North Dakota.....	31.3	-6.9	Elmira.....	68	27	Berthold Agency.....	-34	14†	Portsmouth.....	6.95	Napoleon.....	1.80
Ohio.....	42.0	-8.1	4 stations.....	80	12, 30	Williston.....	-34	14†	Wagoner, Ind. T.....	6.48	Chattanooga, Okla.....	0.08
Oklahoma and Indian Territories.....	40.6	-1.6	Medora.....	67	31	Bladensburg.....	-12	23	Gold Beach.....	12.04	Umatilla.....	0.48
Oregon.....	31.7	-5.3	Ironton.....	74	26	Harrington, Okla.....	2	12	Gordon.....	7.37	Erie.....	2.76
Pennsylvania.....	74.2	-2.9	Chattanooga, Okla.....	83	26	Granite.....	-23	16	Manati.....	8.13	Santa Isabel.....	0.39
Porto Rico.....	51.6	-2.9	Fairview.....	81	9	Lewisburg.....	-13	24†	Walhalla.....	10.25	St. Matthews.....	3.26
South Carolina.....	22.3	-6.5	Derry Station.....	68	30	Saegertown.....	-13	23†	Mitchell.....	3.45	Mound City.....	0.20
South Dakota.....	44.1	-3.7	Manati.....	95	30	Adjuntas.....	47	22	Dyersburg.....	8.08	Elizabethton.....	2.46
Tennessee.....	54.0	-3.7	3 stations.....	82	12, 14	Greenville.....	18	21	Longview.....	7.91	Kent.....	0.00
Texas.....	38.0	-0.3	Oelrichs.....	75	31	Grand River School.....	-27	14	Ranch.....	12.02	Lucin.....	0.15
Utah.....	40.2	-5.3	3 stations.....	76	29	Textline.....	12	21	2 stations.....	6.35	Mendota.....	2.99
Virginia.....	40.4	-0.5	Eagle Pass.....	97	27	Strawberry Valley.....	-34	19	Loverings Ranch.....	5.22	Colville.....	0.02
Washington.....	37.3	-5.2	Grayson.....	86	31	Dale Enterprise.....	8	10	Buckhannon.....	8.11	Wheeling.....	1.98
West Virginia.....	24.1	-6.1	Big Stone Gap (a).....	71	30	Woodstock.....	-12	13	Sturgeon Bay.....	7.18	New Richmond.....	0.48
Wisconsin.....	21.6	-7.3	Kennewick.....	85	30	Bonita.....	-12	13	South Pass City.....	5.40	Cambria.....	0.45
Wyoming.....			Baucroft.....	75	3	Cuba.....	-7	1				
			Koepenick.....	75	31	Minoqua.....	-32	15				
			Hyattville.....	75	31	Snake River, N. N. P.....	-50	17				

* Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut.

† 47 stations, with an average elevation of 772 feet.

‡ 137 stations.

THE WEATHER OF THE MONTH.

By Mr. WM. B. STOCKMAN, Chief of the Division of Meteorological Records.

The distribution of atmospheric pressure conducive to the mild and comparatively dry weather of January and February, 1906, gave way early in March to decidedly wet and wintry conditions, which continued with slight intermissions throughout the month, and as a whole the reputation of the month for sudden and marked changes in weather conditions was more than sustained.

The weather of the month was dominated largely by a marked and persistent area of high pressure central over the northern slope region and the Dakotas, which, extending eastward and westward over the northern tier of States with decided positive departures, markedly influenced the weather in all districts.

To the east, south, and west of the center of highest pressure, under the influence of the generally northerly winds

blowing from the above region, the temperature was markedly lowered, and the averages for the month over the central Rocky Mountain and Plains region and the lower Missouri and central Mississippi valleys were in many cases the lowest on record for this month. The minimum temperatures, as a rule, were not unusually low, except over the extreme northwest, including the States of Washington, Oregon, and Idaho, where from the 12th to 17th inclusive, remarkably low temperatures prevailed, giving at many points values lower than any previously recorded in March.

In marked contrast to the above temperature conditions prevailing over the United States, the Canadian Northwest Provinces, under the influence of southerly winds, were generally free from severe storms and cold waves, with temperatures considerably above the average.

Average temperatures and departures from normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since January 1.	Average departures since January 1.
		°	°	°	°
New England	9	29.4	-2.3	+5.1	+2.6
Middle Atlantic	13	36.8	-2.3	+1.8	+0.9
South Atlantic	10	51.5	-2.1	-2.0	-1.0
Florida Peninsula*	8	64.5	-1.0	-2.2	-1.1
East Gulf	8	53.9	-3.4	-7.4	-3.7
West Gulf	7	53.6	-4.2	-4.0	-2.0
Ohio Valley and Tennessee	12	38.0	-5.6	-3.4	-1.7
Lower Lake	8	28.2	-4.1	+3.7	+1.8
Upper Lake	10	23.6	-3.4	+5.6	+2.8
North Dakota*	8	19.0	-1.0	+10.2	+5.1
Upper Mississippi Valley	13	28.4	-6.6	+0.6	+0.3
Missouri Valley	11	27.9	-7.4	+5.1	+2.6
Northern Slope	7	24.3	-7.5	+7.8	+3.9
Middle Slope	6	33.2	-8.9	+2.5	+1.2
Southern Slope*	6	44.3	-6.3	-2.6	-1.3
Southern Plateau*	13	49.5	+0.6	+6.5	+3.2
Middle Plateau*	8	37.7	-0.1	+4.3	+2.2
Northern Plateau*	12	34.0	-3.4	+5.2	+2.6
North Pacific	7	44.6	-0.5	+6.3	+3.2
Middle Pacific	5	51.7	-0.6	+6.3	+3.2
South Pacific	4	56.0	+0.5	+6.6	+3.3

* Regular Weather Bureau and selected cooperative stations.

In Canada.—Prof. R. F. Stupart says:

The temperature exceeded the average from the Pacific coast to the Rainy River district of Ontario, and was subnormal in all other portions of Canada. The excess amounted to from 1° to 2° in British Columbia and from 3° to 5° in the Northwest Provinces. A deficiency of from 1° to 8° occurred in Ontario and Quebec, and from 1° to 4° in the Maritime Provinces.

Precipitation was generally in excess of the average, except over the north Pacific coast, along the northern border, in Texas, and along the south Atlantic coast.

Under the influence of the high pressure and cold over the northern Rocky Mountain and Plains region, with low pressure over the Southwest, conditions were favorable for the occurrence of heavy precipitation over the southern Rocky Mountain region, and the middle and southern Pacific coasts.

In the area from southern Idaho and Wyoming, southward to and including northern Arizona and New Mexico, and over the whole of California, heavy, and in some cases abnormal amounts of precipitation were recorded. At numerous points in California, and also at points in Utah and Arizona, the monthly amounts were greater than previously recorded in March. Precipitation was also decidedly in excess in central Georgia, the greater part of Alabama and Mississippi and over the lower Ohio Valley.

The snowfall for the month, as to area covered and amounts recorded, was far in excess of the average. Over the central valleys from Kansas and Nebraska eastward to the Appalachian Mountains the amounts for the month were unusually heavy, and during the storm of the 18th-19th the depths of fall at many points were greater than any previously recorded in a single storm, and in some cases more than previously recorded in an entire month. Over much of the southern Rocky Mountain region the snowfall was exceptionally heavy.

By the end of the month, however, the snow had practically disappeared from all sections, except over northern New England, the northern peninsula of Michigan, northern Wisconsin, and Minnesota, and at the higher elevations in the mountain districts.

Average precipitation and departure from the normal.

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
		Inches.		Inches.	Inches.
New England	9	5.05	131	+1.2	-0.6
Middle Atlantic	13	4.21	110	+0.4	-1.4
South Atlantic	10	3.82	86	-0.6	-1.5
Florida Peninsula*	8	3.27	110	+0.3	+1.5
East Gulf	8	8.56	146	+2.7	-0.7
West Gulf	7	2.61	77	-0.8	-3.5
Ohio Valley and Tennessee	12	5.29	123	+1.0	-3.1
Lower Lake	8	2.72	104	+0.1	-2.7
Upper Lake	10	2.20	105	+0.1	+0.3
North Dakota*	8	0.86	42	-0.5	-0.6
Upper Mississippi Valley	13	2.81	122	+0.5	+1.0
Missouri Valley	11	2.34	134	+0.6	+0.7
Northern Slope	7	1.54	183	+0.7	+0.3
Middle Slope	6	1.66	122	+0.3	-0.4
Southern Slope*	6	0.95	100	0.0	-0.7
Southern Plateau*	13	2.23	245	+1.4	+1.0
Middle Plateau*	8	2.26	223	+1.3	+1.5
Northern Plateau*	12	1.65	114	+0.2	-0.2
North Pacific	7	2.10	40	-3.1	-4.9
Middle Pacific	5	8.05	199	+4.0	+4.3
South Pacific	4	6.75	300	+4.5	+5.2

* Regular Weather Bureau and selected cooperative stations.

In Canada.—Professor Stupart says:

The precipitation exceeded the average over eastern Quebec and the Maritime Provinces and also over the greater portion of Ontario and locally in western Quebec; elsewhere it was deficient. The deficiency was pronounced in Alberta and Saskatchewan, where in many districts there was an entire absence of either rain or snow.

In British Columbia large negative departures occurred over the lower mainland and Vancouver Island districts.

At the close of the month the mountains in British Columbia were nearly clear of snow, and in the Northwest Provinces there was practically no snow on the ground. Portions of northern Ontario reported a depth of about 10 inches, and in Quebec the covering of snow varied from a trace at Montreal to 30 inches at Father Point. In the Maritime Provinces the ground was bare in most of the southern districts, while a considerable depth was on the ground in northern New Brunswick.

Maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Amarillo, Tex.	2	60	nw.	North Head, Wash.	23	58	se.
Atlanta, Ga.	19	50	w.	Oklahoma, Okla.	1	50	s.
Block Island, R. I.	1	50	nw.	Do.	2	54	w.
Do.	10	54	w.	Pensacola, Fla.	29	50	sw.
Do.	15	56	ne.	Pittsburg, Pa.	21	54	w.
Do.	19	55	e.	Point Reyes Light, Cal.	1	55	nw.
Do.	22	54	w.	Do.	2	61	s.
Buffalo, N. Y.	21	60	sw.	Do.	3	68	s.
Do.	22	55	sw.	Do.	11	62	s.
Cleveland, Ohio.	21	54	w.	Do.	12	61	s.
Columbus, Ohio.	21	54	sw.	Do.	17	50	nw.
Do.	22	56	sw.	Do.	20	57	s.
Dodge, Kans.	1	52	se.	Do.	23	63	s.
Duluth, Minn.	2	56	ne.	Do.	25	50	s.
Eastport, Me.	9	52	ne.	Do.	30	70	nw.
Do.	20	65	e.	Do.	31	74	nw.
El Paso, Tex.	1	50	w.	Port Crescent, Wash.	10	55	ne.
Do.	18	51	w.	Do.	11	60	ne.
Grand Haven, Mich.	21	54	nw.	Do.	12	56	ne.
Key West, Fla.	29	56	nw.	St. Paul, Minn.	21	50	nw.
Do.	31	56	w.	Salt Lake City, Utah.	13	60	nw.
Lincoln, Nebr.	8	50	nw.	Sand Key, Fla.	8	53	w.
Madison, Wis.	30	53	ne.	Do.	29	60	nw.
Minneapolis, Minn.	21	52	nw.	Do.	31	52	w.
Modena, Utah.	11	52	sw.	Sioux City, Iowa.	8	54	w.
Do.	12	60	sw.	Do.	21	58	nw.
Do.	13	52	sw.	Southeast Farallon, Cal.	2	51	s.
Do.	31	50	sw.	Do.	3	56	s.
Mount Tamalpais, Cal.	12	71	sw.	Do.	11	53	s.
Do.	31	51	nw.	Do.	20	53	se.
Nantucket, Mass.	4	56	sw.	Do.	23	55	se.
Do.	9	60	ne.	Syracuse, N. Y.	26	50	s.
Do.	15	52	e.	Tatoosh Island, Wash.	3	50	s.
Do.	19	60	e.	Do.	10	60	ne.
New York, N. Y.	10	64	w.	Do.	11	66	ne.
Do.	20	60	w.	Winnemucca, Nev.	12	54	se.
Do.	22	52	w.				

Average relative humidity and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
	°			°	
New England	70	- 5	Missouri Valley	78	+ 6
Middle Atlantic	74	+ 2	Northern Slope	75	+ 8
South Atlantic	76	+ 1	Middle Slope	75	+ 15
Florida Peninsula	78	+ 1	Southern Slope	60	+ 10
East Gulf	77	+ 4	Southern Plateau	51	+ 12
West Gulf	74	+ 2	Middle Plateau	66	+ 10
Ohio Valley and Tennessee	77	+ 6	Northern Plateau	72	+ 4
Lower Lake	80	+ 4	North Pacific	74	- 6
Upper Lake	78	- 1	Middle Pacific	78	+ 2
North Dakota	78	0	South Pacific	75	+ 4
Upper Mississippi Valley	78	+ 5			

Average cloudiness and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	5.5	- 0.1	Missouri Valley	6.8	- 1.2
Middle Atlantic	6.6	+ 1.1	Northern Slope	5.2	- 0.1
South Atlantic	5.5	+ 0.8	Middle Slope	6.4	+ 2.0
Florida Peninsula	4.8	+ 0.8	Southern Slope	4.8	+ 0.4
East Gulf	6.2	+ 1.5	Southern Plateau	4.8	+ 0.6
West Gulf	5.9	+ 0.7	Middle Plateau	5.2	+ 0.6
Ohio Valley and Tennessee	7.5	+ 1.6	Northern Plateau	5.2	- 0.9
Lower Lake	7.2	+ 0.8	North Pacific	6.7	+ 0.1
Upper Lake	6.0	+ 0.1	Middle Pacific	6.6	+ 1.6
North Dakota	5.5	0.0	South Pacific	5.8	+ 1.3
Upper Mississippi Valley	7.1	+ 1.6			

DESCRIPTION OF TABLES AND CHARTS.

By Mr. WM. B. STOCKMAN, Chief of the Division of Meteorological Records.

For description of tables and charts see page 38 of REVIEW for January, 1906.